Joint Base Charleston Weapons
Charleston, South Carolina

Joint Base Charleston-Weapons is located in Charleston and Berkeley Counties in the coastal area of South Carolina. The installation is situated in Goose Creek, South Carolina and covers an area of approximately 16,950 acres of contiguous property. The primary mission of JB CHS-Weapons is to enable and sustain warfighter readiness from the shore.

On October 1, 2010, the Air Force officially assumed responsibility for the new Joint Base Charleston, which encompasses the former Charleston Air Force Base and Naval Weapons Station Charleston. The joint base has two sections: Joint Base Charleston Air, which encompasses the former Air Force Base and Joint Base Charleston Weapons, which encompasses the former Navy weapons station.

As part of this permit mod the following has changed:

Two (2) Additional AOCs Added

SWMU 85 – Northside Construction/Demolition Debris
AOC Q – Eastside Ordnance Area 1

Remedies have been selected for eight (8) SWMUs and AOCs

Site	Remedy
SWMU 28 – South Annex Building 3818	No Further Action (NFA)
SMWU 30 – South Annex Hardstand Area	No Further Action (NFA
SWMU 33 – Southside Building 930 Paint Shop	No Further Action (NFA)
SWMU 48 – Southside Building 91-Ammunition Renovation Shop	No Further Action (NFA)
SWMU 49 – Weapons Station/Berkeley POTW Sewer Outfall	No Further Action (NFA)
SWMU 65 – South Annex Building 3412, Old Care & Preservation Shop Septic Tank	No Further Action (NFA)
AOC J – South Annex, Old Building 3637, Boxcar Repair and Paint Facility	No Further Action (NFA)
AOC P – Northside Small Squad Training Area	No Further Investigation w/ Notation in Base Master Plan

SWMU 28 – Old South Annex Building 3818

Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

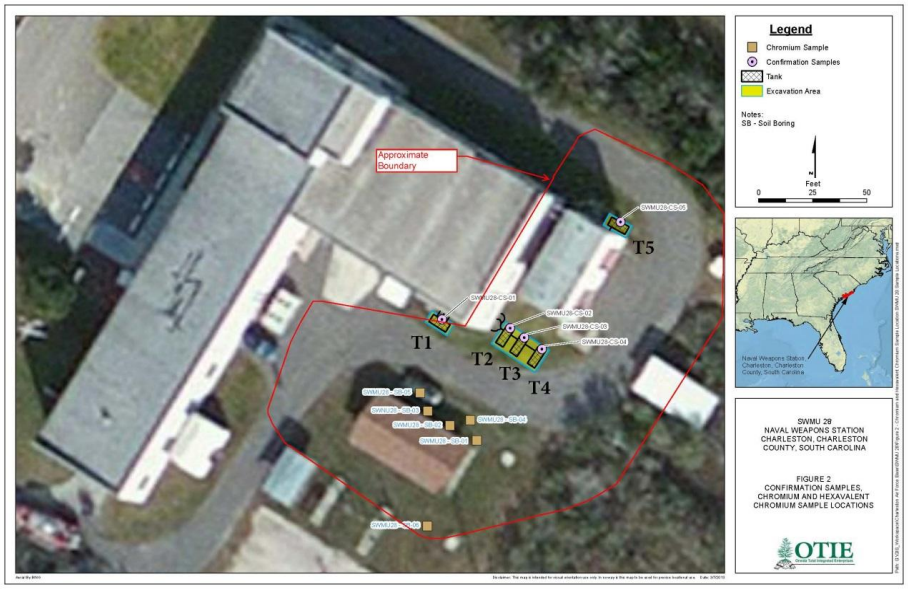
Proposed Corrective Action
NFA is proposed for SWMU 28.

Site Background
SWMU 28 refers to an area which included five 1,000-gallon industrial waste concrete underground storage tanks (USTs) near Buildings 3817 and 3818 in the South Annex. Each tank was approximately 9 feet long, 3 feet 8 inches wide, and 5 feet 6 inches deep. The tanks were used to collect discharge and other effluent from the buildings and the tank contents were collected when full. Engine testing and engine degreasing were reportedly conducted in the buildings. It is estimated that the tanks were installed in 1968 or 1969 and were shut down with liquids remaining inside in 1975. The drains discharging to the tanks from Buildings 3817 and 3818 were grouted, and no further discharge to the tanks occurred (Corrective Measures Study for SWMU 28-South Annex Building 3818, SWMU 29 South Annex Building 3820, SWMU 40-South Annex Building 3818 Fuel Contamination. Naval Weapons Station Charleston, South Carolina, Tetra Tech NUS, Inc. [Tetra Tech], March 2010).

A "dip tank" is any tank that holds a liquid into which an object is immersed. Tank 1 (T1) collected effluent from dip tanks while tanks T2, T3, and T4 received discharges from solvent tanks likely containing industrial degreasing solvents including petroleum-based solvents, chlorinated solvents, or both. The potential types of wastes received by tank T5 were spilled lubricants and fuel from Building 3818 (Tetra Tech, 2010).

Site Investigations

In November 2012, the SB for SWMU 28 was modified to approve the selected alternative of removal of the five USTs. The proposed corrective action under the SB included the removal of tanks and the possible excavation and off-site disposal of chromium contaminated soil, if encountered during excavation. The five tanks were excavated and removed in December 2012, and the corrective measures were documented in the 2013 Draft Final Corrective Measures Implementation Report. The Draft Final Corrective Measures Implementation Report indicates the five USTs, associated piping, excavated soil, and tank liquids were characterized and disposed off-site. Clean fill was used to backfill the tank basin excavations. Confirmation soil samples were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA metals, pesticides, and



polychlorinated biphenyls (PCBs). Analytical results indicated soil samples were above USEPA residential regional screening levels (RSLs) for arsenic, and polycyclic aromatic hydrocarbons. Confirmation soil sample results were similar to studies performed at SWMU 28 (TU028) detailed in Tetra Tech, 2008, and OTIE, 2013, notes the detections were typical to anthropogenic activities (such as the widespread use of fuels, pesticides, and roadways) and were not likely a result of site activities.

Summary of SWMU 28 Risks

Based on the findings from the confirmation samples (compared to similar findings recorded during previous studies), no significant potential health risks for human receptors were identified, and NFA was requested for SWMU 28.

Anticipated Impacts of Cleanup on the Local Community

No significant impacts to the local community are associated with the proposed NFA at SWMU 28.

SWMU 30 – South Annex Hardstand Area

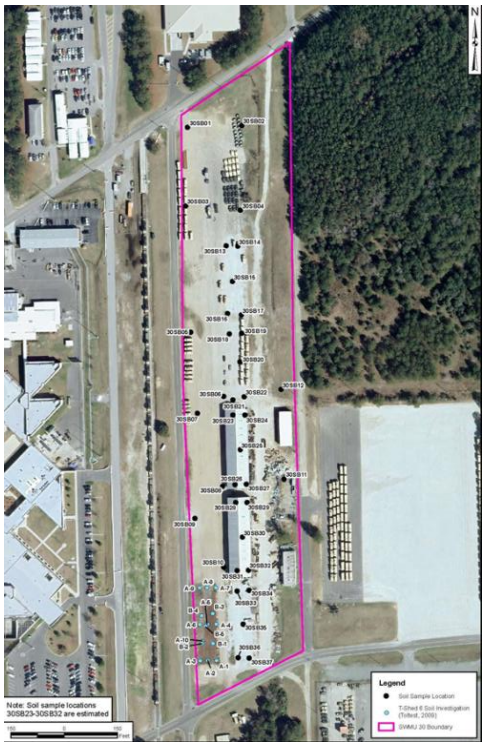
Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

Proposed Corrective Action
NFA is proposed for SWMU 30.

Site Background
SWMU 30 is located in the southern portion of Joint Base Charleston, east of 7th Street and south of Brig Road, in an industrial use area. Six temporary sheds (Tsheds) were previously located at SWMU 30 and were utilized for the cleaning, maintenance, refinishing and short-term storage of military vehicles and equipment. Details of site operational activities resulting in releases of contaminants at the site are unknown, but the footprints of the T-sheds and the surrounding parking areas and equipment storage areas have the potential to be impacted by the maintenance activities that took place there.

T-sheds 1, 2, and 5 were demolished in June 2004 as part of an interim measure. Contaminated surface soil (soil with lead and chromium concentrations exceeding base-wide background concentrations) was also excavated from the upper three inches in each demolished shed footprint. Confirmation soil sampling was conducted post-excavation. Samples collected from T-1 and T-5 identified semi-volatile organic compound (SVOC) concentrations exceeding USEPA soil screening levels (SSLs) and base-wide background concentrations, and samples collected from T-2 identified SVOC concentrations exceeding migration to groundwater screening levels. Based on these results, an 8-millimeter (mm) thick liner and clean gravel fill was placed within each excavated footprint to prevent human exposure to contaminants and to minimize impacts to groundwater from potentially leachable contaminants in the soil.

Site Investigations
A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was submitted in 2013 (Tetra Tech, 2013). Field work associated with the RFI was conducted in 2009. Soil and groundwater samples were collected and analyzed for target compound list (TCL) volatile organic compounds (VOCs), TCL semiSVOCs, Target Analyte List (TAL) metals and chromium IV, Appendix IX VOCs, and Appendix IX SVOCs.
Surface (0 to 2 feet below grade) and subsurface (2 to 10 feet below grade) soil samples collected during the investigation identified the following chemicals of potential concern (COPC): VOCs (methylene chloride), SVOCs (Bis(2-ethylhexyl)phthalate (BEHP)), and metals



(arsenic, lead, silver, aluminum, iron, mercury, selenium, vanadium, and hexavalent chromium). The following COPCs were identified for groundwater: SVOCs (BEHP), and metals (copper and hexavalent chromium). COPCs were identified based on respective concentrations exceeding human health risk assessment (HHRA) screening criteria. HHRA screening criteria includes USEPA regional screening levels (RSLs), SSLs, maximum contaminant levels (MCLs), and screening levels from the USEPA vapor intrusion screening level (VISL) calculator version 2.0.

Summary of SWMU 30 Risks

This data was used to create a HHRA (included in the RFI). The HHRA concluded that groundwater had not been impacted by contaminants detected in surface soil, potential risks from volatized groundwater chemicals into indoor air were within acceptable levels, adverse non-carcinogenic health effects were not anticipated to all receptors, and cumulative incremental lifetime cancer risk (ILCRs) for all receptors under the central tendency exposure (CTE) scenarios were less than or within USEPA's target risk range. Additionally, the HHRA identified no contaminants of concern (COCs) for surface soil, subsurface soil, or groundwater at SWMU 30.

Anticipated Impacts of Cleanup on the Local Community

No significant impacts to the local community are associated with the proposed NFA at SWMU 30.

SWMU 33 – South Annex Hardstand Area

Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

Proposed Corrective Action
NFA is proposed for SWMU 33.

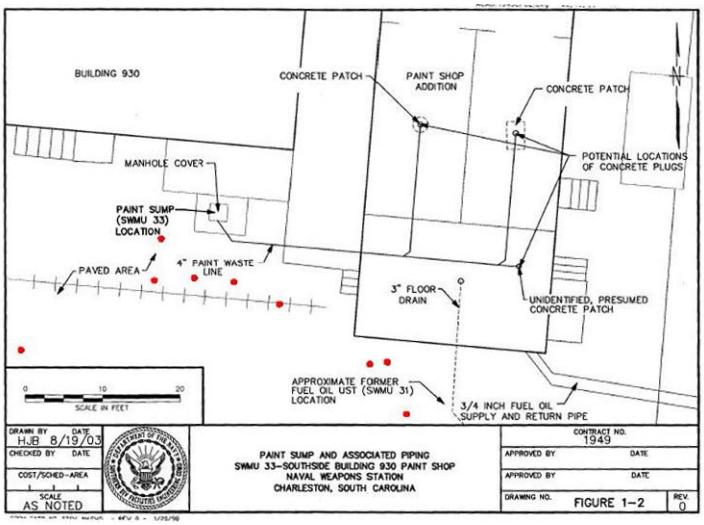
Site Background
SWMU 33 refers to a 1,500-gallon underground concrete paint sump and associated piping located on the south side of Building 930, located in the eastern portion of the Naval Weapons Station. SWMU 33 (CGwas used for the collection of curtain water from a paint spray booth in Building 930. During the late 1980s, the water curtain system was converted to a dry filter system. The paint sump was reportedly never cleaned. The sump (and associated piping) contents were removed and properly disposed in 2003. The sump (and associated piping) was also filled in at that time with a cement mixture to eliminate the risk of future migration to surrounding soil and/or groundwater (Tetra Tech, 2004).

Removal activities associated with the Building 930 area were conducted in 2009, during which buildings, foundations, sumps, associated piping and utilities were removed. An engineered cap was installed following these actions to prevent infiltration of precipitation and prevent exposure to SWMU 10 contaminants (*Engineered Cap Construction Completion Report, SWMU 10 Former Building 930 Area, Former Otto Fuel Sump; Advent, September 2010 [Advent, 2010]* and *NAVSUBTORP Facility Demolition Report; TolTest, November 2009* [TolTest, 2009]). The removal activities and engineered cap construction were approved by SCDHEC in a letter dated May 23, 2011.

Site Investigations
A Phase I groundwater confirmatory sampling (CS) was conducted at SWMU 33 in 1997 to determine the presence or absence of contamination at the site; the results indicated the presence of volatile organic compound (VOC) groundwater contamination at SWMU 33.

An RFI was conducted in 2000 to determine the nature and extent of contamination at several Building 930 SWMUs, including SWMU 33. Monitoring wells were installed and sampled for a complete suite of analytes (including natural attenuation parameters) and existing wells were re-developed and sampled.

The resulting RFI/Closure Report (Tetra Tech, 2002) recommended addressing the SWMU 33 paint sump contents and associated piping. As presented in the RFI/Closure Report, the human health and ecological risks associated with the soil surrounding the SWMU 33 sump were acceptable and, as a result, NFA was recommended for soil. The groundwater at Building 930 was found to be contaminated, likely from several source areas, and is being comprehensively addressed under SWMU 10 (Southside Building 930 Waste OTTO Fuel



Sump) post-closure.

During subsequent site visits in 2002 and 2003, the sump was observed to be completely filled with a water-like liquid. An odor was noted, but there was no visual evidence to suggest that significant amounts of solid or liquid paint remained within the sump. Noted observations of static water levels within the paint sump above typical groundwater levels (groundwater was noted to be 5 to 7 feet below grade) suggested that the paint sump and associated piping system were structurally intact without any breaches that would allow migration of paint sump contents to groundwater. This was further supported by the RFI/Closure Report (Tetra Tech, 2002), which documented the absence of elevated VOC concentrations in subsurface soils samples collected from borings surrounding the sump. Calculated human health and ecological risks associated with subsurface soils collected around the paint sump were not significant for any receptors. The RFI report (Tetra Tech, 2002) was approved by the SCDHEC in a letter dated January 6, 2003.

The sump contents were removed and properly disposed in May and June 2003. Visual inspection of the sump after content removal occurred indicated the walls were free of noticeable cracks. The sump (and associated piping) was filled with a flowable Portland cement mixture, and the surface was finished to match the existing concrete pad of the parking lot.

The report was submitted to the SCDHEC, who indicated in a letter dated December 31, 2003, that the objectives of the Interim Measure were achieved.

Buildings, foundations, sumps, associated piping, and utilities associated with the Building 930 area were removed in 2009. An engineered cap was constructed following their removal to prevent infiltration of precipitation and prevent exposure to SWMU 10 contaminants (TolTest, 2009 and Advent 2010).

Summary of SWMU 33 Risks

As presented in the RFI/Closure Report (Tetra Tech, 2002), human health and ecological risks associated with the soil surrounding the SWMU 33 sump are acceptable, and risks associated with subsurface soils near SWMU 33 were not significant for any receptors. Groundwater near Building 930 has been found to be contaminated with VOCs. Impacted groundwater is likely originating from several source areas and is being comprehensively addressed under SWMU 10 via the post-closure process. SWMU 33 presents no unacceptable risk for any future use.

Anticipated Impacts of Cleanup on the Local Community

No significant impacts to the local community are associated with the proposed NFA at SWMU 33.

SWMU 48 – Southside Building 91 Ammunition Renovation Shop

Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

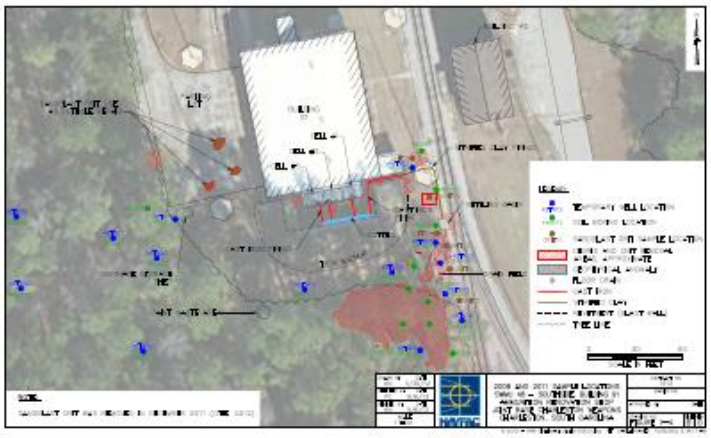
Proposed Corrective Action
NFA is proposed for SWMU 48.

Site Background
SWMU 48 is an inactive site located mostly on the south side of Building 91 in the central-west portion of JB CHS Weapons. According to available historical information, Building 91 was constructed in 1956 and used as a renovation shop for conventional ammunition until about 1988. The renovation process included sandblasting followed by polishing or repainting of the shells. The bag house, located adjacent to the shop, was used to collect the grit and debris from the renovation operations. In the past, shop personnel collected the mixed metal and sandblasting particle debris in 5-gallon buckets from the bag house and sometimes disposed portions of it outside the shop in the woods and along the tree line south of the building. Over time, the dumped debris hardened into an impenetrable plate-like substance on the ground. Building 91 is reportedly unused at present.

Floor drains inside Building 91 connected to clay piping that ran to a small, concrete settling basin outside the southeast corner of the building. Process grit and other small debris particles were occasionally flushed into the basin. Sediment would settle out before the remaining fluid overflowed and drained into a small drain field south of the pit. Also as a consequence of past activities, small quantity dumping and spills of paint, paint thinner, and paint remover reportedly occurred around a small dunnage shed adjacent to the parking lot on the west side of Building 91.

Site Investigations
Base-wide facility environmental assessments were conducted in the 1980s and 1990s on the formerly named Charleston Naval Weapons Station. The report recommended that a site RFI be conducted at SWMU 48 to determine the extent and degree of potential contamination resulting from past activities. Part of the initial investigation consisted of soil sampling at two subsurface locations. No analytical data had been collected for the site prior to the initial RFI. The initial RFI concluded that further investigating was warranted.

In 2009, Tetra Tech NUS, Inc. (TtNUS) performed a geophysical survey of the site to guide subsequent sampling efforts and locate sandblasting debris that might be partially buried or under vegetative cover. The electromagnetic geophysical survey identified anomaly areas interpreted to be buried grit and metal debris. Soil, grit debris, and shallow groundwater samples were collected at the site following the



geophysical survey and analyzed for chemicals of potential concern (COPC). Sediment and water samples were also collected from the building's defunct drainage settling basin. The sandblasting debris was determined to be nonhazardous by laboratory analysis. A removal action was undertaken as an interim measure in December 2011. Approximately 30.9 tons of grit and debris from past Building 91 shop operations was excavated, containerized, and disposed of as nonhazardous waste at a permitted off-site facility. RFI efforts were continued through 2011 in the dunnage shed area of SWMU 48, where small quantity dumping and spills of paint, paint thinner, and paint remover reportedly occurred. This effort consisted of shallow subsurface soil and groundwater sample collection by soil borings and temporary monitoring wells. Over the course of the initial RI water samples were collected from temporary groundwater wells and the settling basin and solid samples from soil borings, basin sediment, and grit.

After review of the initial RFI Report in 2013, SCDHEC directed additional soil investigating in the area of defunct piping on the south side of Building 91 to support the NFA recommendation. Additional soil samples were collected along the gutter and piping runs in January 2014. The analytical results confirm the absence of contamination associated with the gutters and piping system, and support the recommendation of NFA for soil and groundwater at SWMU 48.

Summary of SWMU 48 Risks

There are no risks to human health identified with the selected NFA remedy. The analytical results of the soil and groundwater samples indicated the majority of COPCs were either not detected, were below or near background concentrations, or did not exceed Human Health Risk Assessment (HHRA) screening levels. Human Health Risk Screening Evaluation (HHRSE) assessments conducted on COPCs in groundwater at SWMU 48 resulted in no unacceptable risk.

Anticipated Impacts of Cleanup on the Local Community

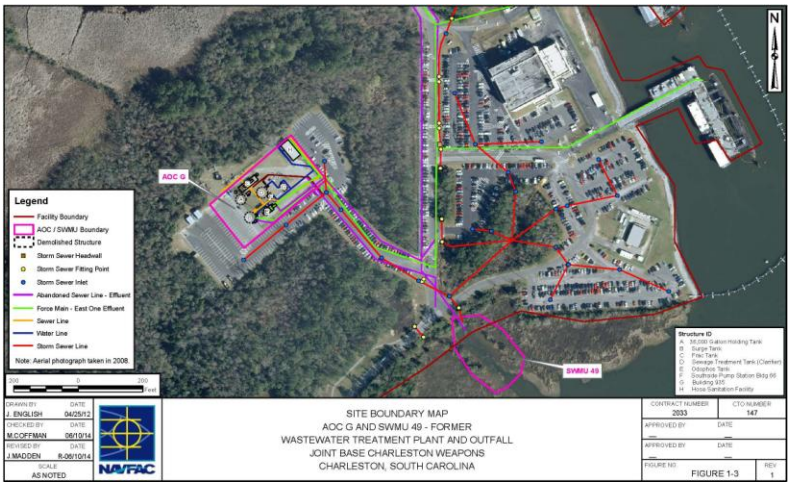
No significant impacts to the local community are associated with the proposed NFA at SWMU 48.

SWMU 49 - Weapons Station/Berkeley POTW Outfall

Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

Proposed Corrective Action
NFA is proposed for SWMU 49.

Site Background
SWMU 49 is located in the central portion of the Weapons Station and refers to the location of the former wastewater treatment plant outfall. The former wastewater treatment plant (known as AOC G) is located approximately 600 feet northwest of SWMU 49. The wastewater treatment plan included a holding tank, surge tank, clarifier, and lift station, and was in operation from the mid-1950s until the 1980s. Sewage sludge was stored and handled at the plant, and treated wastewater was discharged to the outfall in the Cooper River (SWMU 49). The capacity of the outfall was 2.3 million gallons per day (MGD). During the 1980s the wastewater treatment plant was converted to a pump station, and a lift station remains to direct wastewater to the Berkeley County Sewer and Water Authority (BCS&WA) Publicly Owned Treatment Works (POTW) for treatment. The outfall continued to be used by the BCS&WA until 1993 when the discharge point was moved approximately 0.5 miles upriver.



The AOC G wastewater treatment plant was demolished in 2000. The closure of the plant was approved by SCDHEC, Trident Environmental Quality Control (EQC) District on November 21, 2000. At that time, tanks were removed and connections to the SWMU 49 outfall were capped. Stormwater inlets were constructed during construction of an adjacent parking lot; collected stormwater is discharged from an outfall adjacent to SWMU 49.

Site Investigations
A RCRA Facility Investigation (RFI) was completed for SWMU 49 in June 2014. The RFI was conducted to determine the nature and extent of contamination associated with the former wastewater treatment plant and outfall area and to quantify the potential risks to receptors.

Soil and groundwater samples were collected in 2011, and were analyzed for target compound list (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), and target analyte list (TAL) metals. Selected soil samples were also analyzed for Appendix IX list VOCs, SVOCs, pesticides, herbicides, polychlorinated biphenyls (PCBs), dioxins/furans, and inorganics (tin, cyanide, and sulfide).

With the exception of methylene chloride (which exceeded the screening level for leachability), analytical results from the soil samples collected at SMWU 49 did not exceed regulatory criteria.

Methylene chloride was not detected in groundwater samples collected as part of the investigation and was not deemed a primary risk driver for the human health risk assessment (HHRA).

The HHRA concluded no unacceptable levels of risk were identified in the surface and subsurface soil at SWMU 49, and that no contaminants were identified at AOC G or in the soil adjacent to piping associated with the former wastewater treatment plant that would indicate migration of contaminants or an impact at SWMU 49. Unacceptable levels of risk to human receptors from groundwater contaminants were identified; however, these impacts were recommended to be evaluated as part of an AOC G Corrective Measures Study (CMS).

Summary of SWMU 49 Risks

The 2014 RFI completed for SWMU 49 investigated potential sources of contamination associated with the former wastewater treatment plant at AOC G. The HHRA did not identify unacceptable levels of risk to human receptors at SWMU 49, and no contaminants were identified that would indicate migration of contaminants to SWMU 49 has occurred. Based on the current and historical information, SWMU 49 presents no unacceptable risk for any future use.

Anticipated Impacts of Cleanup on the Local Community

No impacts to the local community are associated with the proposed NFA at SWMU 49.

SWMU 65 - South Annex Building 3412, Old Care & Preservation Shop Septic Tank

Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

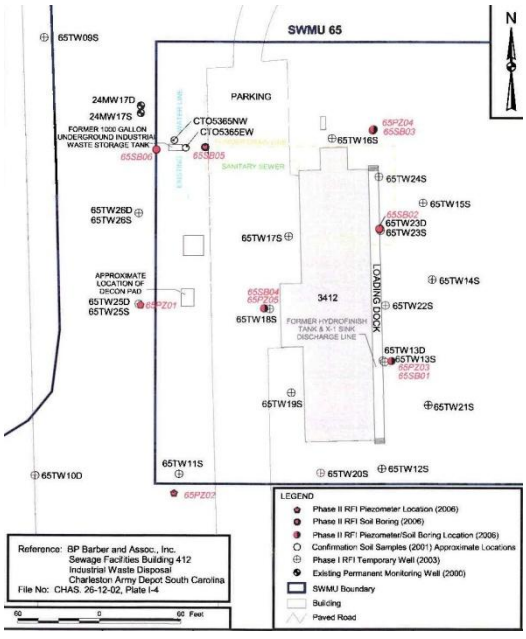
Proposed Corrective Action
NFA is proposed for SWMU 65.

Site Background
SWMU 65 is located in the southwestern portion of the South Annex and operated from the early 1950s to the mid-1970s to preserve various military parts prior to long-term storage. This process reportedly involved 16 separate tanks and sinks (totally 2,573 gallons) that were originally piped above the floor slab inside the building to one drainage pipe that exited the eastern side of the building through the loading dock and continued aboveground to the western side of the building where it discharged to the ground. The piping was rerouted underground in 1967 to a 1,000-gallon underground industrial waste storage tank, which appears to have been placed at the location of the former drainage pipe discharge point.

During the 1967 modification, one tank and one sink were reportedly disconnected from the existing drain line and discharged to the ground on the eastern side of the building. The industrial waste storage tank, removed during an interim measure (IM) in August 2001, was a concrete septic tank with a metal access hatch. The underground drainage piping was pressure tested in 2001 with no indication of loss of integrity, and was grouted in place during the IM removal operation.

SWMU 65 is adjacent to and upgradient/cross-gradient of SWMU 24, the Old South Annex Waste Disposal Area, which was initially investigated in 1998 and further investigated in 2000/2001 when contaminated groundwater from an upgradient chlorinated solvent source near SWMU 65 was identified.

Site Investigations
A RCRA Facility Investigation (RFI) was completed for SWMU 65 in February 2008. The RFI was conducted in two phases: Phase I (conducted in March and July of 2003), and Phase II (conducted in April 2006). Phase I was focused on determining if historical activities associated with the tank and building had resulted in groundwater contamination, and if SWMU 65 was the source of groundwater contamination at SWMU 24 (groundwater sampling confirmed it was not). Phase II confirmed groundwater flow direction, investigated soil contamination, and gave better definition to the extent of downgradient groundwater contamination.



Wells were installed and sampled for volatile organic compounds (VOCs) during the SWMU 65 RFI. Selected locations were also analyzed for semi-volatile organic compounds (SVOCs) and metals. Of these analytes, VOCs (specifically trichloroethylene [TCE]) were the only constituent identified as a contaminant of concern in

the groundwater. The RFI noted that site-wide data indicated TCE concentrations had been decreasing with time (the study compared its results with those collected from 1985 to 2000/2001), and that current-day contamination was "nominal" at SWMU 65. Soil samples were collected during the 2001 IM for confirmation purposes from the excavation walls. Additional samples were collected outside of the excavation area from six borings in 2006 to confirm the success of the underground tank removal and identify the extent of residual contamination (VOCs and fuel constituents were detected during the 2001 IM); constituents noted in 2001 were not identified in 2006. The RFI suggests the soil contamination was limited to the tank area and was addressed when over-excavated soils were removed with the tank during the IM.

The ecological risk assessment identified a potential risk from two pesticides; however, the risk was determined to be "minor at worst." Additionally, the detections were attributed to historical use in the vicinity (the insecticides were no longer being used and were known to be extremely persistent in soil), and detections were limited to small areas not great enough to warrant further risk evaluation to ecological receptors.

Summary of SWMU 65 Risks

SVOCs, pesticides, polychlorinated biphenyls (PCBs), and metals were detected in surface and subsurface soils collected during the RFI; however, the human health risk assessment (HHRA) concluded the risks for current and potential future receptors at SWMU 65 were acceptable. Based on the current and historical information, SWMU 65 presents no unacceptable risk for any future use.

Anticipated Impacts of Cleanup on the Local Community

No significant impacts to the local community are associated with the proposed NFA at SWMU 65.

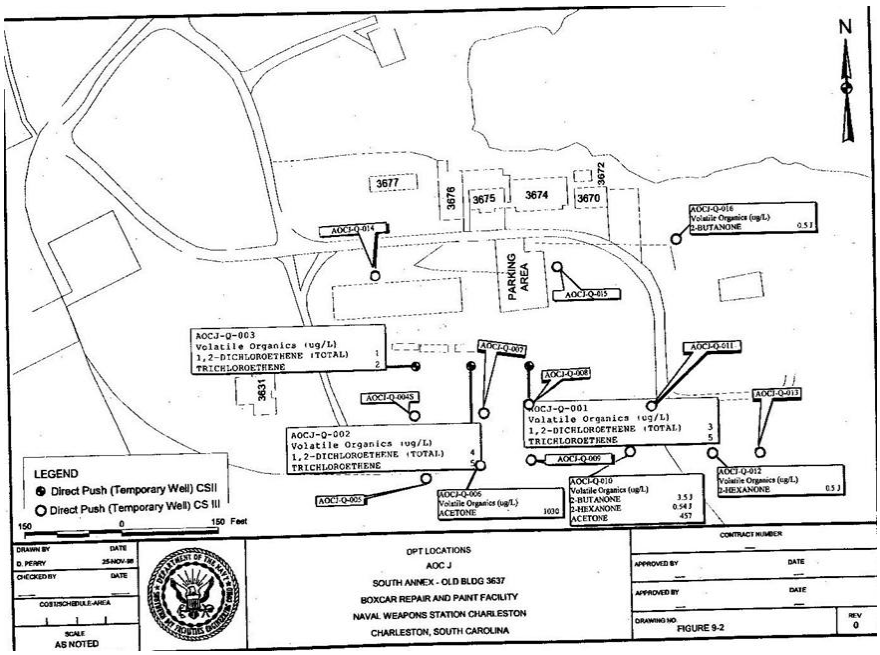
AOC J - South Annex Old Building 3677, Boxcar Repair and Paint Facility

Contaminants: None
Media: None
Proposed Remedy: No Further Action (NFA)

Proposed Corrective Action
NFA is proposed for AOC J.

Site Background
AOC J is located in the southern section of the naval weapons station. The site was used to construct, rework, and paint railroad boxcars for the Army in the 1950s and 1960s. Paints and solvents were potentially dumped on the ground along this site for a number of years. Prior to this activity, Building 3621 was used to refuse artillery shells and Building 3631 was a site for demilitarizing grenades, and trinitrotoluene (TNT) was reportedly used to re-prime ordnance at this facility. Tetra Tech notes that possible spillage may have occurred from these operations (Tetra Tech, 2000). Neither of these structures presently exists; building 3621 suffered extensive damage from Hurricane Hugo and was demolished. Likewise, Building 3631 was demolished, and the site was used for an administrative building.

Site Investigations
AOC J was originally investigated as part of a confirmatory sampling (CS) investigation conducted in 1997 (CS I Investigation). Surface soil samples were collected and analyzed for target compound list (TCL), volatile organic compounds (VOCs), and resource conservation and recovery (RCRA) metals. Low levels of VOCs and RCRA metals were detected, and it was determined that a potential existed for migration to groundwater.



A CS II Investigation was conducted in 1998. During this investigation, three temporary well points were installed and sampled for VOCs. Groundwater concentrations of 1,2-dichloroethene (DCE) and trichloroethene (TCE) were present in each of the wells and were not the same VOCs observed in the overlying soil. Therefore, there was a concern that a contamination plume could be present outside of the area sampled, and that the source could have been from other buildings in the area rather than AOC J.

A CS III Investigation, a continuation of the CS II Investigation, was performed in 1999. Temporary well points were installed during the CS III Investigation to identify if the site was the source of groundwater contamination. Surface soil samples were analyzed for VOCs and RCRA metals. No exceedances of VOC screening criteria were identified. Arsenic was detected in one sample at a concentration (9.5 mg/kg) exceeding residential and industrial USEPA Region III risk based

concentration (RBCs). The arsenic concentration in this sample exceeded, but was near the base-wide background concentration (8.0 mg/kg). Chromium in soil exceeded the soil screening level (SSL) for migration to groundwater, but was less than the base-wide background concentrations. TCE was detected at concentrations exceeding the tap water RBC; however, the maximum concentration equaled but did not exceed the State and Federal maximum contaminant level (MCL). The CS III Investigation also notes the presence of 1,2-DCE (a degradation product of TCE) indicated TCE was naturally attenuating.

Summary of AOC J Risks

Investigations conducted at AOC J from 1997 to 1999 identified soil and groundwater impacts (VOCs and metals in soil, TCE, and 1,2-DCE in groundwater). However, observed soil and groundwater analyte concentrations were below regulatory criteria, and natural attenuation appeared to be occurring in groundwater. No data exists to indicate the detections associated with AOC J have impacted the environment. Based on the current and historical information, AOC J presents no unacceptable risk for any future use.

Anticipated Impacts of Cleanup on the Local Community

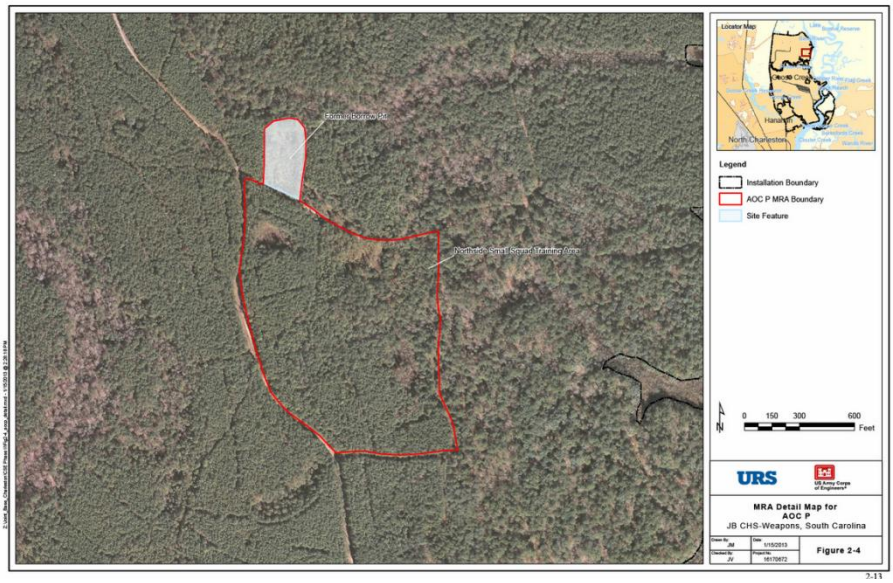
No significant impacts to the local community are associated with the proposed NFA at SWMU 28.

AOC P – Northside Small Squad Training Area

Contaminants: None
Media: None
Proposed Remedy: No Further Investigation with notation in Base Master Plan

Proposed Corrective Action
NFI is proposed for AOC P.

Site Background
AOC P MRS, also known as the Northside Small Squad Training Area MRS, occupied approximately 30.5 acres and was reportedly used as a small arms range from the mid-1980s to the mid-1990s for security and rapid reaction force training. A former borrow pit is located in the northern-most portion of the MRS. AOC P reportedly provided an undeveloped environment for small squad security tactics training. Munitions potentially used for the training activities were reportedly limited to blank small arms including 5.56 and 7.62 millimeter (mm) ammunition. There is no historical information that suggests munitions containing explosives were ever used in the area of AOC P. No evidence of the former range-related munitions activities has been observed at AOC P. The land is currently unused except for recreation activities (e.g., hunting) (URS 2013).



Site Investigations
Preliminary Assessment (PA) (Malcolm Pirnie, Inc. 2007) was conducted at AOC P prior to the CSE Phase II investigation. Documents, correspondence, maps, aerial photographs, interviews with installation personnel, and observations were made during the PA to establish the AOC P boundaries that were subsequently investigated during the CSE Phase II. The PA identified no visual evidence of training activities or small arms ammunition use at AOC P and MC was not expected to be present based on the findings of the PA (Malcolm Pirnie 2007). The CSE Phase II (URS 2013) was conducted to further investigate the findings of the PA. The CSE Phase II visual survey activities completed throughout the MRS identified no range-related MEC, MEC hazards, munitions debris, or other evidence of small squad security tactics training activities thought to be associated with the MRS. During the CSE Phase II investigation, a total of surface soil samples were collected from AOC P and analyzed for lead using X-ray fluorescence. All detected MC (lead) concentrations observed during the CSE Phase II investigation were below the installation background level for lead, indicating that MC releases from former small squad security tactics training activities have not occurred at the MRS.

Summary of AOC P Risks

Based on the SCDHEC Approval Letter dated June 26, 2013 (SCDHEC 2013), No Further Investigation and Site Closure, is recommended for AOC P. The letter indicates that AOC P MRS poses no adverse effects to human health or the environment.

Anticipated Impacts of Cleanup on the Local Community

No significant impacts to the local community are associated with the proposed NFI at AOC P.